The following listing of claims replaces all prior versions and listing of claims in the application:

Listing of Claims:

Claims 1-26 (canceled)

Claim 27 (New): A filamentous embolic device, comprising:

a flexible, filamentous carrier formed of a length of wire having an elastic memory and initially configured with a portion forming a looped structure whereby the carrier assumes a three-dimensional shape; and

an embolizing element arranged coaxially around the carrier and non-releasably attached thereto, the embolizing element being formed at least in part of a hydrophilic polymer.

Claim 28 (New): The device of Claim 27, wherein the carrier comprises a continuous length of microcoil.

Claim 29 (New): The device of Claim 27, wherein the embolizing element comprises a coating applied to the carrier.

Claim 30 (New): The device of Claim 29, wherein the coating encapsulates at least a portion of the length of the carrier.

Claim 31 (New): A vascular embolization device that is deployable intravascularly while attached to the distal end of a deployment instrument, the embolization device comprising:

a flexible, filamentous microcoil having a proximal end and a distal end;

a hydrophilic polymeric embolizing element coaxially covering a substantial portion of the length of the carrier between the proximal and distal ends thereof; and

a linkage element on the proximal end of the carrier that is releasably attachable to the distal end of the deployment instrument.

Claim 32 (New): The device of Claim 31, wherein the carrier has an elastic memory and is initially configured in a multi-looped configuration.

Claim 33 (New): The device of Claim 31, wherein the linkage element is releasable from the deployment instrument by an electric current.

Claim 34 (New): The device of Claim 31, wherein the linkage element is releasable from the deployment instrument by heat.

Claim 35 (New): The device of Claim 31, wherein the linkage element is releasable from the deployment instrument by fluid pressure.

Claim 36 (New): A method for embolizing a target vascular site having a defined volume, comprising the steps of:

(a) passing a microcatheter intravascularly so that its distal end is introduced into a target vascular site;

(b) passing a vaso-occlusive device through the microcatheter into the target vascular site so that the vaso-occlusive device assumes a three-dimensional configuration that fills a portion of the volume of the target vascular site;

(c) providing a deployment instrument and a vascular embolization device, the embolization device comprising:

a flexible, filamentous carrier of predetermined length, releasably attached to the deployment instrument; and

a polymeric embolizing element covering and non-releasably attached to at least a portion of the length of the carrier;

(d) passing the deployment instrument and the attached embolization device through the microcatheter so that the embolization device embolization device emerges from the distal end of the microcatheter into the target vascular site; and

(e) releasing the embolization device from the deployment instrument.

Claim 37 (New): The method of Claim 36, further comprising the step of:

(f) expanding the embolizing element in the target vascular site when the embolization device is within the target vascular site, so as to substantially fill the remaining volume of the target vascular site while retaining the embolizing element on the carrier.

Claim 38 (New): The method of Claim 36, wherein the carrier comprises a microcoil.

Claim 39 (New): The method of Claim 36, wherein the deployment instrument comprises a microcoil.

Claim 40 (New): The method of Claim 36, wherein the embolizing element comprises a hydrophilic polymer.

Claim 41 (New): The method of Claim 36, wherein the embolizing element includes an agent selected from the group consisting of bioactive agents and therapeutic agents.

Claim 42 (New): The method of Claim 36, wherein the carrier includes a radiopaque material.

Claim 43 (New): The method of Claim 40, wherein the embolizing element is made of a material selected from the group consisting of polyvinyl alcohol and pHEMA.

Claim 44 (New): The method of Claim 40, wherein the embolizing element is radiopaque.

Claim 45 (New): The method of Claim 36, wherein the embolization device is releasably attached to the deployment instrument by a linkage element, and wherein the step of releasing is performed by the application of an electric current to the linkage element.

Claim 46 (New): The method of Claim 36, wherein the embolization device is releasably attached to the deployment instrument by a linkage element, and wherein the step of releasing is performed by the application of heat to the linkage element.

Claim 47 (New): The method of Claim 36, wherein the embolization device is releasably attached to the deployment instrument by a linkage element, and wherein the step of releasing is performed by the application of fluid pressure to the linkage element.

Claim 48 (New): A method of embolizing a target vascular site having a defined volume, comprising the steps of:

(a) deploying an intravascular device to a position in a blood vessel adjacent to a target vascular site;

(b) providing a deployment instrument and a vascular embolization device, the embolization device comprising:

a flexible, filamentous carrier of predetermined length, releasably attached to t the deployment instrument; and

a polymeric embolizing element covering and non-releasably attached to at least a portion of the length of the carrier;

(c) passing a microcatheter intravascularly so that the distal end of the microcatheter passes through the intravascular device into the target vascular site;

(d) passing the embolization device through the microcatheter so that it emerges from the distal end of the microcatheter into the target vascular site; and

(e) releasing the embolization device from the deployment instrument.

Claim 49 (New): The method of Claim 48, further comprising the step of:

(f) expanding the embolizing element *in situ* substantially to fill the volume of the target vascular site while retaining the embolizing element on the carrier.

Claim 50 (New): The method of Claim 48, wherein the target vascular site is an aneurysm having a neck, and wherein the step of deploying the intravascular device is performed so that the deployed intravascular device at least partially blocks the neck of the aneurysm.

Claim 51 (New): The method of Claim 48, wherein the embolizing element includes an agent selected from the group consisting of bioactive agents and therapeutic agents.

Claim 52 (New): The method of Claim 48, wherein the embolizing element is expansible primarily by hydrophilic action.

Claim 53 (New): The method of Claim 48, wherein the carrier includes a radiopaque material.

Claim 54 (New): The method of Claim 52, wherein the embolizing element is made of a material selected from the group consisting of polyvinyl alcohol and pHEMA.

Claim 55 (New): The method of Claim 48, wherein the embolizing element is radiopaque.

Claim 56 (New): A vascular embolization device, comprising:

a flexible, filamentous carrier that assumes a three-dimensional configuration when unconstrained, the carrier having an exterior surface and a distal tip; and

a stretch-resistant embolizing element non-releasably fixed to the exterior surface of the carrier at a location proximal from the distal tip, wherein the embolizing element is formed at least in part of a hydrophilic polymer.

Claim 57 (New): A device for embolizing a vascular site, comprising:

a flexible, filamentous carrier; and

an expansible embolizing element non-releasably carried on the carrier, the embolizing element including an agent selected from the group consisting of bioactive agents and therapeutic agents.

Claim 58 (New): The device of Claim 57, wherein the embolizing element is expansible primarily by hydrophilic action.

Claim 59 (New): The device of Claim 57, wherein the carrier includes a radiopaque material.

Claim 60 (New): The device of Claim 57, wherein the embolizing element is made of a material selected from the group consisting of polyvinyl alcohol and pHEMA.

Claim 61 (New): The device of Claim 57, wherein the embolizing element is radiopaque.

Claim 62 (New): A device for embolizing a vascular site, comprising:

a carrier of predetermined length, comprising a flexible polymer filament and a microcoil coaxially surrounding the filament; and

a polymeric embolizing element arranged coaxially on the carrier and non-releasably attached thereto, the embolizing element substantially continuously covering at least a portion of the length of the carrier.

Claim 63 (New): The device of Claim 62, wherein the embolizing element comprises a hydrophilic polymer.

Claim 64 (New): The device of Claim 62, wherein the microcoil is made at least in part of platinum.

Claim 65 (New): The device of Claim 62, wherein the carrier is formed into a looped structure that, when unconstrained, assumes a configuration selected from the group consisting of a helix, a sphere, and an ovoid.

Claim 66 (New): The device of Claim 62, wherein the embolizing element is stretch-resistant.